

THE SCYPHOMEDUSÆ OF THE SOUTHERN HEMISPHERE.

BY R. VON LENDENFELD, PH.D.

PART I.—INTRODUCTION.

Animals, which, as in the generative stages of the Scyphomedusæ, live in the open sea, can hardly be studied in a small area. It therefore appears advantageous to extend our investigation from the Australian shores over the whole of the Southern Hemisphere, and we have a good right to do so from Sydney, as the centre of scientific zoological research this side of the equator. Very few other fields of investigation look so promising as this.

Although hardly anything is known of the southern Medusæ in comparison to their better studied northern relatives, still nearly as many southern species have been described. In some groups there are already more southern than northern species. All families are represented here, while I have discovered a new family on our shores, which has no representative in the Northern Hemisphere.

In consequence of the larger area of ocean in this hemisphere the Medusæ are, as we might expect from the previous statements, *much more numerous* in the southern than in the northern seas, although at present there are of course not quite so many known as north of the line.

In this paper I shall give descriptions of *all* known Scyphomedusæ from this hemisphere. The description of species observed before will be brief; on those alone seen by myself I intend to dwell more in detail.

The classification of Haeckel will be adopted, and Haeckel's Diagnoses translated.

The authors will be cited, and all papers on the species referred to.

By this essay I hope to enable those who interest themselves in the subject to identify any of the Scyphomedusæ which they may find, and to describe it, in case it is new. It is only possible to augment our knowledge if we make all the use we can of the previous work done in the same field.

SCYPHOMEDUSÆ. RAY LANKASTER.

The Scyphomedusæ form according to Haeckel (1) the second Legion of the Classis Medusæ. He uses Gegenbaur's name *Acraspedæ* for them. The difference between these *Acraspedæ* and the other Medusæ, the *Craspedota*, is however so great that I prefer to dwell on them separately.

All the large Jelly-fish or Blubbers of our shores appear to belong to this group, although there exist Medusæ belonging to the *Craspedotæ* which are very similar to them in appearance. The great difference lies in the sessile zooids on which these Medusæ, which are the sexual generation of the Hydrozoa, bud.

While the *Craspedotæ* originally budded from Hydroid Polyyps, (a process which has in many cases been done away with) the Scyphomedusæ bud from a Scyphostoma which is fundamentally different from and much highly organized, than a Hydroid Polyp. I intend to dwell on this subject in another paper.

In the accompanying list, all species from the Southern Hemisphere which have been described are enumerated.

The statistical table verifies the above statements of the prevalence of the southern Scyphomedusæ over the northern in number of species. The Australian Scyphomedusæ fauna is apparently poor, but this is due only to the insufficient investigations which have hitherto been carried on on this subject. Suffice it to state, that of the five Scyphomedusæ abundant on our shores only one had been described before I studied them.

I hope, therefore, that we shall be able to add very extensively to the Australian Scyphomedusæ by our researches.

(1.) Haeckel System der Medusen, Seite 367.

SCYPHOMEDUSÆ. RAY LANCASTER, 1877.

I. ORDO.—STAUROMEDUSÆ. Haeckel, 1879.

1. Family Tesseridæ. Haeckel, 1879.

1. Genus Tessera. Haeckel, 1879.

1. Species *T. princeps*. Haeckel, 1879.2. Species *T. typus*. Haeckel, 1879.

2. Genus Tesseraria. Haeckel, 1879.

3. Species *T. Scyphomeda*. Haeckel, 1879.

3. Genus Tesserantha. Haeckel, 1879.

4. Species *T. connectens*. Haeckel, 1879.

2. Family Lucernaridæ. Johnston, 1847.

4. Genus Craterolophus. Clark, 1863.

5. Species *C. Macrozystis*. Von Lendenfeld, 1884(*new*)

II. ORDO.—PEROMEDUSÆ. Haeckel, 1879.

3. Family Pericolpidæ. Haeckel, 1879.

5. Genus Pericolpa. Haeckel, 1879.

6. Species *P. quadrigata*. Haeckel, 1879.7. Species *P. tetralina*. Haeckel, 1879.

6. Genus Pericrypta. Haeckel, 1879.

8. Species *P. galea*. Haeckel, 1879.9. Species *P. campana*. Haeckel, 1879.

4. Family Periphyllidæ. Haeckel, 1879.

7. Genus Periphylla. Steenstrup, 1837.

10. Species *P. Peronii*. Haeckel, 1879.11. Species *P. mirabilis*. Haeckel, 1879.

8. Genus Periphema. Haeckel, 1881.

12. Species *P. regina*. Haeckel, 1881.

III. ORDO.—CUBOMEDUSÆ. Haeckel, 1879.

5. Family Charybdeidæ. Gegenbaur, 1856.
 9. Genus Procharybdis. Haeckel, 1879.
 13. Species *P. securigera*. Haeckel, 1879.
 14. Species *P. tetraptera*. Haeckel, 1879.
 15. Species *P. flagellata*. Haeckel, 1879.
 10. Genus Charybdea. Péron et Leseur, 1809.
 16. Species *C. alata*. Reynaud, 1830.
 11. Genus Tamoya. Fritz Müller, 1859.
 17. Species *T. haplonema*. Fritz Müller, 1859.
 18. Species *T. bursaria*. Haeckel, 1879.
 19. Species *T. gargantua*. Haeckel, 1879.
6. Family Chiroidropidæ. Haeckel, 1879.
 12. Genus Chiropsalmus. L. Agassiz, 1862.
 20. Species *C. quadrumanus*. L. Agassiz, 1862.
 21. Species *C. zYGONema*. Haeckel, 1879.
 13. Genus Chiroidropus. Haeckel, 1879.
 22. Species *C. palinatus*. Haeckel, 1879.
 23. Species *C. gorilla*. Haeckel, 1879.

IV. ORDO.—DISCOMEDUSÆ. Haeckel, 1866.

7. Family Ephyridæ. Haeckel, 1879.
 14. Genus Ephyra. Péron et Leseur, 1809.
 24. Species *E. prometeor*. Haeckel, 1879.
 25. Species *E. discometra*. Haeckel, 1879.
 15. Genus Palephyra. Haeckel, 1879.
 26. Species *P. antiqua*. Haeckel, 1879.
 16. Genus Zonephyra. Haeckel, 1879.
 27. Species *Z. connectens*. Haeckel, 1879.
 17. Genus Nauphanta. Haeckel, 1879.
 28. Species *N. Challengeri*. Haeckel, 1879.

18. Genus *Atolla*. Haeckel, 1879.
 29. Species *A. Wyvilli*. Haeckel, 1879.
19. Genus *Collaspis*. Haeckel, 1879.
 30. Species *C. Achilles*. Haeckel, 1879.
8. Family *Linergidæ*. Haeckel, 1879.
 20. Genus *Linantha*. Haeckel, 1879.
 31. Species *L. lunulata*. Haeckel, 1879.
 21. Genus *Linerges*. Haeckel, 1879.
 32. Species *L. Aquila*. Haeckel, 1879.
 22. Genus *Liniscus*. Haeckel, 1879.
 33. Species *L. ornithopterus*. Haeckel, 1879.
 23. Genus *Linuche*. Eschscholtz, 1829.
 34. Species *L. Lamarkii*. Eschscholtz, 1829.
9. Family *Pelagidæ*. Gegenbaur, 1856.
 24. Genus *Pelagia*. Péron et Leseur, 1809.
 35. Species *P. panopyra*. Péron et Leseur, 1809.
 36. Species *P. papillata*. Haeckel, 1879.
 37. Species *P. discoidea*. Eschscholtz, 1829.
 25. Genus *Chrysaora*. Péron et Leseur, 1809.
 38. Species *C. fulgida*. Haeckel, 1879.
 39. Species *C. Blossevillei*. Lesueur, 1829.
 40. Species *C. Plocamia*. Haeckel, 1879.
 41. Species *C. calliparea*. Haeckel, 1879.
 26. Genus *Dactylometra*. L. Agassiz, 1862.
 42. Species *D. lactea*. L. Agassiz, 1862.
10. Family *Cyanidæ*. L. Agassiz, 1862.
 27. Genus *Procyanea*. Haeckel, 1879.
 43. Species *P. protosema*. Haeckel, 1879.
 28. Genus *Medora*. Couthouy, 1862.
 44. Species *M. reticulata*. Couthouy, 1862.

29. Genus *Stenoptycha*. L. Agassiz, 1862.
 45. Species *S. rosea*. L. Agassiz, 1862.
 46. Species *S. Goethena*. Haeckel, 1879.
30. Genus *Drymonema*. Haeckel, 1879.
 47. Species *D. Gorgo*. Fritz Müller, 1883.
31. Genus *Desmonema*. L. Agassiz, 1862.
 48. Species *D. Annasethe*. Haeckel, 1879.
 49. Species *D. Gaudichaudi*. L. Agassiz, 1862.
 50. Species *D. pendula*. Haeckel, 1879.
32. Genus *Cyanea*. Péron et Leseur, 1809.
 51. Species *C. Annaskala*. Von Lendenfeld, 1882.
33. Genus *Patera*. Lesson, 1843.
 52. Species *P. cerebriiformis*. Lesson, 1843.
34. Genus *Melusina*. Haeckel, 1879.
 53. Species *M. formosa*. Haeckel, 1879.
11. Family *Flosculidae*. Haeckel, 1879.
 35. Genus *Floscula*. Haeckel, 1879.
 54. Species *F. Promethea*. Haeckel, 1879.
 55. Species *F. Pandora*. Haeckel, 1879.
 36. Genus *Floresca*. Haeckel, 1879.
 56. Species *F. Parthenia*. Haeckel, 1879.
 57. Species *F. Pallada*. Haeckel, 1879.
12. Family *Ulmaridae*. Haeckel, 1879.
 37. Genus *Ulmaris*. Haeckel, 1879.
 58. Species *U. prototypus*. Haeckel, 1879.
 38. Genus *Aurelia*. Péron Leseur, 1809.
 59. Species *A. colpota*. Brandt, 1838.
 60. Species *A. clausa*. Lesson, 1829.
 61. Species *A. limbata*. Brandt, 1835.
 62. Species *A. coerulea*. Von Lendenfeld, 1884(*new*).
 39. Genus *Aurosa*. Haeckel, 1879.
 63. Species *A. furcata*. Haeckel, 1879.
 40. Genus *Auricoma*. Haeckel, 1879.
 67. Species *A. Aphrodite*. Haeckel, 1879.

13. Family Toreumidae. Haeckel, 1879.

- 41. Genus Archirhiza. Haeckel, 1879.
 - 65. Species *A. aurosa*. Haeckel, 1879.
 - 66. Species *A. primordialis*. Haeckel, 1879.
- 42. Genus Toreuma. Haeckel, 1879.
 - 67. Species *T. theophila*. Haeckel, 1879.
 - 68. Species *T. thamnostama*. Haeckel, 1879.
 - 69. Species *T. Gegenbauri*. Haeckel, 1879.
- 43. Genus Cassiopea. Péron et Leseur, 1809.
 - 70. Species *C. Andromeda*. Eschscholtz, 1829.
 - 71. Species *C. ornata*. Haeckel, 1879.
 - 72. Species *C. depressa*. Haeckel, 1879.
- 44. Genus Cephea. Péron et Leseur, 1809.
 - 73. Species *C. fusca*. Péron et Leseur, 1809.
 - 74. Species *C. conifera*. Haeckel, 1879.
- 45. Genus Polyrhiza. L. Agassiz, 1862.
 - 75. Species *P. homopneustis*. Haeckel, 1879.
 - 76. Species *P. Orythia*. Haeckel, 1879.

14. Family Pilemidae. Haeckel, 1879.

- 46. Genus Toxoclytus. L. Agassiz, 1862.
 - 77. Species *T. roseus*. L. Agassiz, 1862.
- 47. Genus Lychnorhiza. Haeckel, 1879.
 - 78. Species *L. lucerna*. Haeckel, 1879.
- 48. Genus Eupilema. Haeckel, 1879.
 - 79. Species *E. scapulare*. Haeckel, 1879.
 - 80. Species *E. claustra*. Haeckel, 1879.
- 49. Genus Pilema. Haeckel, 1879.
 - 81. Species *P. capense*. Haeckel, 1879.
- 50. Genus Rhopilema. Haeckel, 1879.
 - 82. Species *R. rhopalophora*. Haeckel, 1879.
- 51. Genus Brachiolophus. Haeckel, 1879.
 - 83. Species *B. collaris*. Haeckel, 1879.
- 52. Genus Stomolophus. L. Agassiz, 1862.
 - 84. Species *S. Fritillaria*. Haeckel, 1879.

15. Family Chaunostomidae. Von Lendenfeld, 1882.
 53. Genus *Pseudorhiza*. Von Lendenfeld, 1882.
 85. Species *P. aurosa*. Von Lendenfeld, 1882.
16. Family Versuridae. Haeckel, 1879.
 54. Genus *Hoplorrhiza*. Haeckel, 1879.
 86. Species *H. simplex*. Haeckel, 1879.
 87. Species *H. punctata*. Haeckel, 1879.
 55. Genus *Cannorrhiza*. Haeckel, 1879.
 88. Species *C. connexa*. Haeckel, 1879.
 56. Genus *Versura*. Haeckel, 1879.
 89. Species *V. palmata*. Haeckel, 1879.
 90. Species *V. pinnata*. Haeckel, 1879.
 91. Species *V. versicolor*. Haeckel, 1879.
 57. Genus *Stylorrhiza*. Haeckel, 1879.
 92. Species *S. punctata* Von Lendenfeld, 1884 (*new*).
17. Family Crambessidae. Haeckel, 1869.
 58. Genus *Cramborrhiza*. Haeckel, 1879.
 93. Species *C. flagellata*. Haeckel, 1879.
 59. Genus *Crambessa*. Haeckel, 1869.
 94. Species *C. cruciata*. Haeckel, 1879.
 95. Species *C. palmipes*. Haeckel, 1879.
 96. Species *C. mosaica*. Haeckel, 1879.
 60. Genus *Mastigias*. L. Agassiz, 1862.
 97. Species *M. papua*. L. Agassiz, 1862.
 98. Species *M. ocellata*. Haeckel, 1879.
 99. Species *M. pantherina*. Haeckel, 1879.
 61. Genus *Eucrambessa*. Haeckel, 1879.
 100. Species *E. Mülleri*. Haeckel, 1879.
 62. Genus *Thysanostoma*. L. Agassiz, 1862.
 101. Species *T. thysanura*. Haeckel, 1879.
 102. Species *T. melitea*. Haeckel, 1879.
 63. Genus *Leptobrachia*. Brandt, 1838.
 103. Species *L. leptopus*. Brandt, 1838.
 64. Genus *Leonura*. Haeckel, 1879.
 104. Species *L. terminalis*. Haeckel, 1879,

ORDERS AND FAMILIES.	TOTAL NUMBER OF KNOWN SPECIES.	SPECIES IN THE SOUTHERN HEMI- SPHERE.	AUSTRALIAN SPECIES.
SCYPHOMEDUSÆ.....	210.....	104.....	26
I. ORDO STAUROMEDUSÆ.....	18.....	5.....	2
1. Tesseridæ	8.....	4.....	1
2. Lucernaridæ.....	12.....	1.....	1
II. ORDO PEROMEDUSÆ.....	12.....	7.....	3
3. Pericolpidæ	4.....	4.....	3
4. Periphyllidæ	8.....	3.....	0
III. ORDO CUBOMEDUSÆ.....	22.....	11	1
5. Charybdeidæ.....	17.....	7.....	1
6. Chirodroididæ.....	5.....	4.....	0
IV. ORDO DISCOMEDUSÆ.....	158.....	81.....	20
7. Ephyridæ	12.....	7	1
8. Linergidæ.....	11.....	4.....	0
9. Pelagidæ.....	20.....	8.	0
10. Cyanidæ	21.....	11... ..	2
11. Flosculidæ	4.....	4.....	0
12. Ulmaridæ.....	21.....	6.... ..	2
13. Toreumidæ	18.....	12.....	6
14. Pilemidæ ..	18.....	8.....	0
15. Chaunostomidæ	1.....	1.....	1
16. Versuridæ.....	14.....	7.....	4
17. Crambessidæ	18.....	13.....	4

SCYPHOMEDUSÆ. RAY LANKASTER, 1877.

The Scyphomedusæ are Medusæ with Gastral filaments or Phacells, with entodermal Gonads, without Velum, with marginal laps of the Umbrella, without a double centralized nerve-ring. Developed originally from a Scyphostoma by Strobilation. Ontogenesis, mostly change of generations often connected with a metamorphosis. The sexual generation is produced by terminal budding of (1) the non-sexual Scyphostoma generation.

I. ORDO STAUROMEDUSÆ. Haeckel, 1879.

Scyphomedusæ without organs of sense, 4 pair of adradial or 4 simple interrarial Gonads in the sub-umbral wall. Stomach with four large perradial pouches 2).

1. Family. *Tesseridae*. Haeckel, 1879.

Stauromedusæ with simple undivided margin of the umbrella, without hollow margin laps. Eight simple per-and inter-radial tentacles. Ring-shaped muscle on margin of Umbrella continuous. In middle of Exumbrella a protuberance or stalk.

1. Gen. *Tessera*. Haeckel, 1879.

Tesseridae without stalk, with eight simple tentacles without nettle knot.

1. sp. *Tessera princeps*. Haeckel, 1879.

Haeckel System der Medusen. Seite, 374.

Tafel, XXI. Figuren, 1-6.

Umbrella bell shaped, higher than broad, with conical protuberance on Exumbrella containing a gastral canal. Four simple gastral filaments. Mouth tube quadrangular prismatic nearly as long as the height of the Umbrella. Mouth square. Four simple hoof shaped Gonads. The four perradial tentacles double as long as the four interrarial ones.

Size : Breadth of Umbrella, 4 mm., height 5 mm.

(1). Haeckel, Medusen. Seite, 360.

(2). Haeckel, Medusen. Seite, 364.

Locality : Antarctic Ocean, S.E. of Kerguelen. Lat. S. 64° 37'. Long., E. of Greenwich, 85° 49'. Station 154 of the "Challenger." Wyville Thomson.

2. Gen. *Tesserantha*. Haeckel, 1879.

Tesseridæ without Umbrella stalk, with Exumbrellar process ; with 16 simple, not hollow tentacles, without terminal nettle knot.

2. sp. *Tesserantha connectens*. Haeckel, 1879.

Haeckel, Tiefsee Medusen der "Challenger" Expedition. Seite 42. Tafel. XV.

Umbrella helmet shaped, $1\frac{1}{2}$ as high as broad, above with conic process with canal. Four double rows of gastral filaments. Mouth tube quadrangular, prismatic, half as long as the height of the Umbrella. Mouth with four folded laps. Four simple hoof shaped Gonads. The arch surrounds the knots. The eight tentacles of the same length as long as the height of the Umbrella.

Size : Width of Umbrella, 6 mm., height of Umbrella, 9 mm.

Locality : South-eastern part of the Pacific Ocean, near Juan Fernandez.

Lat. S. 33° 31'. Long., W. Greenwich, 74° 43'. Station, 299 of the "Challenger," in a depth of 2,160 fathoms. Wyville Thomson.

2. Family. *Lucernaridæ*. Johnston, 1847.

Margin of Umbrella simple, undivided, without hollow arms or margin-laps, with simple tentacles. On the Exumbrella a prolongation, with which the Medusa affixes itself to foreign bodies.

3. Gen. *Craterolophus*. Clark, 1863.

Lucernaridæ, with four Mesogon pouches in the wall of the Subumbrella, without marginal anchors or papillæ.

3. Sp. *Craterolophus macrocystis*. R. von Lendenfeld, 1884.

Nova species.

The genus *Craterolophus* has only been found on the coast of Heligoland, where the hitherto single species *Craterolophus Tethys*,

Clark, is very abundant; but nowhere else. Our species is accordingly the second. Unfortunately it is very rare, so that my description must be imperfect as I only got two specimens, both of which were cut into sections forthwith.

Umbrella deep bell shaped, expanded about half as broad as high (in *Cr. Tethys* broader than high). Stalk about $\frac{2}{3}$ of the height of the umbrella, (in *Cr. Tethys* only $\frac{1}{4}$ — $\frac{1}{3}$.) Eight arms short at equal distances. Every arm with a cluster of about 30 tentacles. The Gonads are like those of *Cr. Tethys*, feathery.

Colour : Dark olive green, fades in spirits.

Size : Height of umbrella, 12 mm.; breadth, 6 mm.; stalk, 8 mm. high; and extended 3 mm. thick.

Locality : East coast of New Zealand, Port Chalmers, Hutton, Lyttleton, von Lendenfeld.

On *Macrocystis*.

II. ORDO PEROMEDUSÆ. Haeckel, 1877.

Scyphomedusæ, with four interradial organs of sense, which contain an organ of hearing and several eyes, 4 or 12 tentacles, 8 or 16 marginal laps. Stomach surrounded by a large subumbbral ring-shaped sinus, with four interradial strictures. Four pairs of frill-shaped Gonads.

3. Family. *Pericolpidae*. Haeckel, 1877.

Margin of Umbrella with four perradial tentacles and 8 adradial marginal laps. Festoon-canal with 16 pouches.

4. Gen. *Pericolpa*. Haeckel, 1879.

Without perradial pouches, with continuous funnel-cavities, four interradial Tæniols, in the basal stomach are solid bars without gastral filaments.

4. Sp. *Pericolpa quadrigata*. Haeckel, 1879.

Haeckel System der Medusen. Seite, 413.

Tafel, XXIII.

Umbrella high ; conic, twice as high as broad ; a deep furrow between central part and marginal part of Umbrella. The 4 perradial Pedalia double as broad as the interrarial ones, as long as the margin laps, these eight in number ; 4 tentacles double as long as height of Umbrella. Mouth tube quadrangular prismatic, nearly double as long as the central stomach.

Size : 10 mm. wide and 20 mm. high.

Locality : Antarctic Ocean, south-east of Kerguelen. Lat. S. 64° 37'. Long. E. of Greenwich, 85° 49'. Station, Nr. 154, of the "Challenger," Wyville Thomson.

5. Gen. *Pericrypta*. Haeckel, 1879.

Four perradial pouches with four continuous cavities. 4 interrarial Taeniols of the basal stomach ; they are high caves covered along their whole length with two rows of gastral filaments.

5. sp. *Pericrypta galea*. Haeckel, 1879.

Haeckel System der Medusen. Seite, 414.

Umbrella high, helmet shaped, $1\frac{1}{2}$ as high as broad, divided in two equally high parts by a circular groove. The four perradial Pedalia of the margin of the Umbrella only slightly broader than the four interrarial ones, slightly longer than the eight marginal laps. Four tentacles as long as height of Umbrella. Mouth tube cubic, with wide pouches with eight long adradial barbs.

Size : Breadth, 30 mm., height, 40 mm.

Locality : South Pacific Ocean, East Coast of Australia. Schnehagen.

6. sp. *Pericrypta campana*. Haeckel, 1879.

Haeckel System der Medusen. Seite, 414.

Umbrella bell shaped, a little higher than broad. Shallow circular groove. Inner part double as high as marginal ring. The four perradial Pedalia double as broad as the four interrarial, double as long as the eight stump margin laps. Four tentacles double as long as the height of the Umbrella. Mouth tube quadrangular prismatic, half as long as the central stomach, without barbs.

Size: Breadth of Umbrella, 24 mm., height, 30 mm.

Locality: South Pacific Ocean, near New Zealand. Weber.

4. Family. *Periphyllidæ*. Haeckel, 1877.

Peromedusæ with 12 tentacles and four marginal organs of sense. With 16 margin laps. Exumbrella with 16 Pedalia, and circular muscle; on either side of the Pedalia a pouch. Festoon canal consists of 32 lap pouches.

6. Gen. *Periphylla*. Steenstrup, 1837.

With four perradial pouches in the mouth tube, and 4 basal funnel cavities. The 4 interradianal Taeniols are hollow caves, along the whole length of which there are two rows of Gastral filaments.

7. sp. *Periphylla Peronii*. Haeckel, 1879.

Haeckel System der Medusen. Seite, 420.

Charybdea periphylla. Péron et Leseur. Tableau, etc., p. 332.

Charybdea periphilla de Blainville, 1834. Actinologie, p. 275. Atlas pl. 31, fig. 1.

Charybdea periphylla. Milne Edwards. 1839. Cuvier, Règne Animal, Illustré., pl. 55, fig. 2.

Charybdea periphylla. L. Agassiz, 1862. Monograph of the Acalephæ. Contributions etc. Vol. IV., p. 173.

Umbrella flat conic, broader than high. Margin laps triangular pointed, their distal wings narrow. The tentacle laps projecting a little more than the laps of the marginal organs of sense. Tentacles long and thick, double as long as the height of the Umbrella, at the base half as broad as the margin laps. Mouth tube cubic. No barbs.

Colour: Subumbral surface of the Umbrella brown, tentacles yellowish.

Size: Breadth of Umbrella, 60 mm., height, 50 mm.

Locality: Equatorial part of Atlantic Ocean. Péron. Coast of South Africa. W. Bleek.

8. sp. *Periphylla mirabilis*. Haeckel, 1879.

Haeckel System der Medusen. Seite, 422. Die Tiefsee Medusen der "Challenger" Expedition. Seite, 54. Tafel, XVIII, XXIII.

Umbrella conic, $\frac{1}{4}$ higher than broad. Pedal zone higher than the lap zone. Both together $\frac{2}{3}$ as high as the cone. Margin laps oval, distal wings triangular. Tentacle laps slightly projecting, less than the eight laps of the marginal sense organs. Tentacles double as long as height of Umbrella, at the base $\frac{1}{3}$ as broad as the margin laps. Mouth tube cubic, $\frac{1}{3}$ as high as the Umbrella, 8 adradial long barbs.

Colour: In spirits, light violet, subumbral surface dark violet. Gonads orange.

Size: Breadth of Umbrella, 120 mm., height, 160 mm.

Locality: East Coast of New Zealand. Lat., S. $40^{\circ} 28'$. Long., E. of Greenwich, $177^{\circ} 43'$, depth, 1,100 fathoms. Station, Nr. 168, "Challenger." Wyville Thomson.

7. Gen. *Periphema*. Haeckel, 1879.

With 4 perradial pouches in the mouth-tube, and 4 perradial extensions of the basal stomach. Between these the four subumbral funnel-cavities form hollow cones which bear two rows of gastral filaments, except on the top. The two rows terminate separately below the point of the cone.

9. Sp. *Periphema regina*. Haeckel, 1881.

Haeckel Tiefsee medusen der "Challenger" Expedition. Seite, 72. Tafel, XXIV., XXV.

Periphylla regina. Haeckel, 1879. System der Medusen. Seite, 421.

Umbrella bell-shaped, as high as broad; pedal zone lower than lap zone; margin laps oval, distal wings semi-circular; 8 tentacular laps more projecting than those of the marginal organs of sense. Tentacles very thick, about as long as the height of the Umbrella, at the base $\frac{1}{3}$ as broad as the margin laps. Mouth-tube cubic large and thick-walled half as high and broad as the Umbrella-mouth, without barbs.

Size: Breadth 180-200 mm.; height, 180-200 mm.

Locality: Antarctic Ocean, S.E. of Kerguelen, Lat. S. $62^{\circ} 26'$. Long. E. of Greenwich, $95^{\circ} 44'$. In a depth of 1975 fathoms. Station Nr. 156 of the "Challenger." Wyville Thomson.